



UNIVERSITY
OF MALAYA

Volume 2
Issue 3
July-Oct 2014

Visit us at our website :
museumzoology
.um.edu.my

CONTRIBUTORS



John
J. Wilson



Thary Gazi



Gary Sing



Izreen Mukri

BULLETIN OF THE MUSEUM OF ZOOLOGY



INSIDE THIS ISSUE:



- 1— Bee Day Activities
- 2— Why do Bees Matter?
- 2— Economic importance of Bees
- 3— Bee Diversity
- 3— Bee Collection in MZUM.
- 4— Museum activities.
- 4— Upcoming events.

EDITORIAL:

Bees are amongst the world's most misunderstood animals. A recent survey in several Southeast Asian cities by my PhD student and I revealed that a rich diversity of bee species can be found in central business districts in high abundance, yet, most of the residents claim to have never seen a bee. Ironically, despite being oblivious to their presence, the majority of residents felt bee controls were necessary, and in some cases, need to be increased.

Considering most people have never had negative experiences with bees, this fear probably stems from parents and teachers emphasizing the dangers of being stung when we are children, producing a self-sustaining socially-conditioned response. A confounding factor is the inability to distinguish bees and wasps. Although most people know bees play an important role in pollination, it seems that the beneficial role of bees is

underappreciated or overshadowed by fear of being stung. We recently received a small grant from UM, through UMCares, to set up a stingless bee farm at the Museum of Zoology, and a Bee Club to manage and study the hives. Our hives contain domesticated colonies of native species found in Malaysia. So please don't *bee* a stranger, welcome to the Museum of Zoology and the world of bees!

—John Wilson

BEE DAY ACTIVITIES

Welcome to the Museum of Zoology Bee Day! On this special occasion we have prepared a range of activities for all ages. All the special exhibits will be **open from 10am to 4pm.**

SEMINAR ROOM:



- Badge colouring and making
- Honey Sale



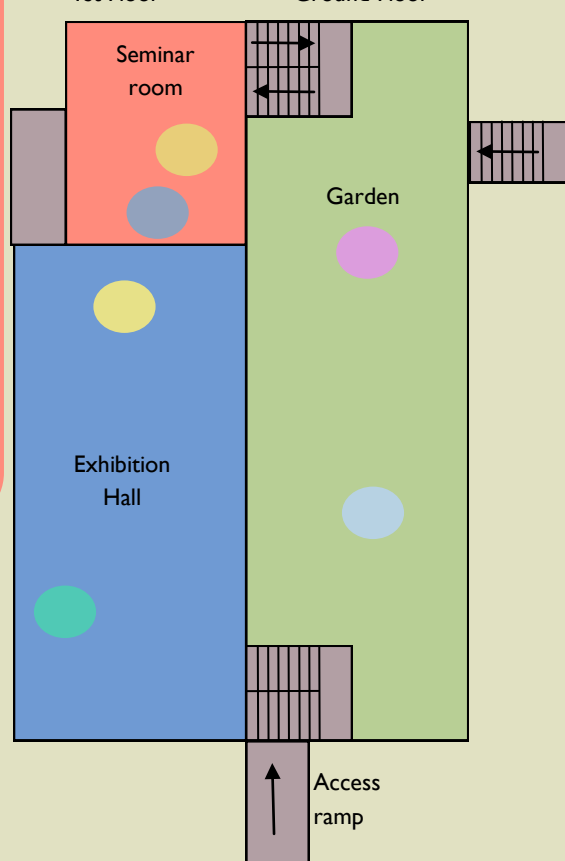
- Bee Diversity Display

EXHIBITION HALL:

- The difference between Bees and Wasps.
- What do Bees sound like?
- Movie Screening (4pm).

1st Floor

Ground Floor



MUSEUM GARDEN:



- Bee attracting flowers.
- Honey tasting and Stingless Bee hives.



*Special
~Bee Day~
Issue*



Printed on
recycled
paper.

WHY BEES MATTER:

If the bee disappeared off the surface of the globe then man would only have four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man.
-Anonymous.

Bees are actually referring to a large group of insects in the order Hymenoptera which include the common honey bees, Bumble bees, Stingless bees, and Carpenter bees. Members of these four bee groups are all social except the Carpenter bees, which are solitary.

So why are bees considered highly beneficial to human? Bees play very important role in the pollination of thousands of plant species around the world. The ecosystem stability, genetic variation and diversity, and evolution of species are all dependant on the cross pollination between plants, and this is only achieved by using pollinators. More than 80 percent of flowering plants are depending on insect pollination to survive, while it is estimated that half of the pollinators of tropical plants are bees. Furthermore, bees are considered as the best pollinators as compared to other animals.

Their great numbers of working individuals offers great advantage in transferring pollens from one plant to another. Other than that, their unique physical characteristics which are extremely hairy around their abdomen make them highly specialize at catching and transferring pollen. Their foraging behaviour, also unique to the bees maximise their potential as pollinators. When they started to forage, they will always visit the same species of flowers and work there as long as plenty of nectar or pollen can be found. On contrary, most other insects visit different plants within the same foraging trip which gives out low pollination effect.



The importance of bees extends beyond pollination and as a source of food, which is the honey itself. The health benefits of honey have long been realized by humans to treat a variety of ailments. Honey contains powerful antioxidants with antiseptic and antibacterial properties. Honey contains invert sugar that has the quality of providing instant energy when consumed. It is also a heart stimulant and a useful food supplement. From medicinal views, honey can help to treat patient of diabetic ulcers when the patient cannot use topical antibiotics. It is also stated that honey are able to cure some allergic reaction. Apitherapy is the medical use of all products made by bees which include the use of honey, beeswax, pollen, propolis, royal jelly and bee venom.

—Izreen Mukri

BEE DIVERSITY:

Bees come in all sorts of shapes and sizes, although we are mostly familiar with only “True” Honey Bees (from which there are actually 7 different species and 44 subspecies). While honey bees have orange and black striping, many bees do not.

There are large bees that don’t build hives and live mostly alone like the Carpenter Bee, and there are small delicate bees that don’t even have stings like the Stingless Bees. Carpenter Bees dig holes in wood to lay their eggs and don’t live in organized hives while Stingless bees build hives in rotting tree trunks. They seal the entrance to their hive off with a tube made of resin or sap from trees, this sticky tubes prevents ants from entering the nest.

Some bees live in the hives of other species as parasites, these are called Cuckoo Bees, which are named after the Cuckoo bird which lays its eggs in other birds’ nests. But these bees are quite rare compared to other bees.

—Thary Gazi



Top: Stingless bees prepare to fly out of the entrance tube of the hive.

Middle: A carpenter bee at rest. These bees are much larger than normal bees.

Bottom: A honey bee collecting pollen and nectar from a flower.



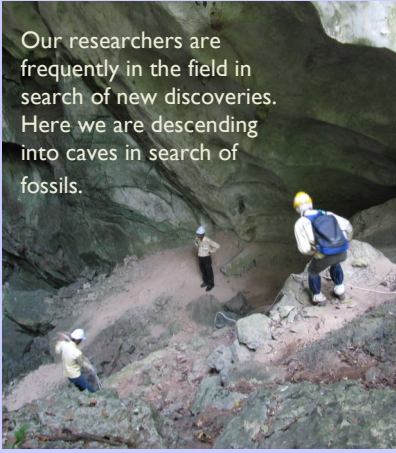
BEE COLLECTIONS AT THE MUSEUM

The Museum of Zoology houses a fascinating collection of insects that dates back to the early 20th century. Our collection of bees fills more than an entire cabinet, with bees ranging from small and delicate stingless bees to large robust carpenter bees. We estimate that there are more than 1000 bees currently in the collection, and it is still growing. The Museum has one of the most complete collections of Peninsular Malaysian stingless bees in the world.

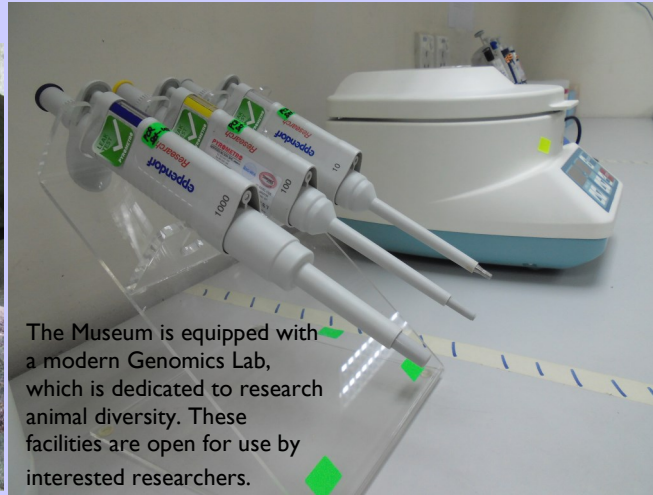
MUSEUM ACTIVITIES:

RESEARCH:

Our researchers are frequently in the field in search of new discoveries. Here we are descending into caves in search of fossils.



The Museum is equipped with a modern Genomics Lab, which is dedicated to research animal diversity. These facilities are open for use by interested researchers.



Our collections are open to researchers and our staff of postgraduate students are available to facilitate access to the collections.



COLLECTIONS:

The museum maintains a diverse collection of Zoological specimens, which include tiny insects to a complete skeleton of an Asian Elephant. Our collections are divided into: the Insect collection (a) which houses more than 60,000 specimens, the Fossil collection (b) which includes rare Malaysian mammalian fossils from the Ice Age, the Dry vertebrate collection (c), which has specimens of many extinct, rare and endangered animals and the Wet vertebrate (d) collection, which houses fishes, amphibians and reptiles preserved in alcohol. While most of the collections is not on public display, we allow access on special request.

Visit the Museum Facebook page and website at:
<https://www.facebook.com/museumzoologyum>
<http://museumzoology.um.edu.my>



OUTREACH:

We provide guided tours, workshops and seminars that are open to the public. Tours are available for all ages and the general public, but reservations must be made in advance so we can ensure that a trained tour guide is present. Reservations can be made at our website.

We also help organize talks, exhibits and programs in schools, libraries or other museums.



UPCOMING EVENTS

UMCARES BIODIVERSITY WEEK

UM Campus
27th—30th October
2014

Open to the Public, UM
Staff and Students.

Activities:

- ~Wildlife of UM exhibition.
- ~Tree walk.
- ~Bird Watching.
- ~Butterfly spotting.
- ~Frogging.
- ~Honey Tasting.
- ~Water Quality monitoring
- ~Public Lectures.
- ~Movie Screenings.
- ~Forums.

To find out more visit:
www.umrimba.com
www.facebook.com/umrimba

